

4.10 AGRICULTURE

Agriculture is an important land use in many parts of the Lahontan Region. Agricultural uses include ranching, dairying, aquaculture, and the production of irrigated crops. Rangeland livestock grazing is a major agricultural use in the Region that is discussed separately in the "Range Management" discussion of the "Resources Management and Restoration" section of this Chapter. Public fish hatcheries are discussed separately in the "Fisheries Management" discussion of the "Resources Management and Restoration" section of this Chapter.

Agricultural activities can affect water quality in a number of ways. Agricultural drainage contributes salts, nutrients, pesticides, trace elements, sediments, and other by-products that can degrade the quality of surface and ground waters. There are unique problems associated with irrigated agriculture, animal confinement operations, aquaculture facilities, and the use of agricultural chemicals.

Irrigated Agriculture

Irrigation drainage can contain significant amounts of pesticides, fertilizers, salts, trace elements, and sediment. (Control of pesticides and fertilizers is discussed in the following section entitled "Agricultural Chemicals.")

Trace elements (such as molybdenum, boron, arsenic, selenium, etc.) can have both chronic and acute toxic effects on humans and other animals. Sedimentation impairs fisheries and, by virtue of the characteristics of many organic and inorganic compounds to bind to soil particles, it serves to distribute and circulate toxic substances through stream, lake, and riparian systems. The cost of pumping and treating water for municipal and industrial use also increases with increasing sediment load.

Salts contained in irrigation water become concentrated as evaporation and crop transpiration remove water from soils. Depending on the fraction of applied irrigation water that is leached through the soil, salts may either accumulate in the crop root zone or be carried with the drainage water. Salt accumulation in the root zone can result in reduced crop yield and quality. Salts present in drainage waters may reach surface or ground water via natural flows or via discharge of surface drains (e.g.,

tailwater ditches) or subsurface drains (e.g., tile drains).

Improved irrigation efficiency can substantially reduce the rate of salt accumulation, allowing crop production to continue into the foreseeable future even in the low rainfall areas. Water saved through implementation of irrigation efficiency programs could be used for dilution of agricultural wastewater, recharge of ground water, and/or non-agricultural uses.

However, in areas experiencing chronic salt accumulation, agriculture can be sustained in the long-term only if degraded waters are removed at a sufficient rate to maintain low salt levels and to achieve a satisfactory balance between imports and exports of salts. This may be achieved by installation of drainage systems and by export of saline drainage to temporary or permanent "salt sinks." Salt sinks are designated acceptor areas for saline wastewaters, where such waters can be stored and evaporated. Both the North and South Lahontan Basins contain a number of alkali and dry lakes that could possibly be adapted for use as salt sinks. However, any such proposal(s) must comply with the water quality objectives contained in this Basin Plan, and with all other applicable laws, regulations, and policies.

Salt inputs to a basin can be reduced in part by improved management of salt sources such as fertilizers, animal wastes, and soil amendments. Regulation may be required, but an appreciable improvement can also be expected from education of farmers to understand and better utilize existing information and Best Management Practices.

In the North Lahontan Basin, areas where irrigated agriculture is important include the East and West Walker Rivers, Carson River, and lower Susan River watersheds. In the South Lahontan Basin, the majority of irrigation occurs in the Antelope, Owens, and Fremont Valleys, and along the Mojave and Amargosa Rivers.

Until about 1960, irrigated agriculture constituted the South Basin's major developed land use, with the greatest acreage in the Antelope Valley. Around 1950, however, rising ground water-pumping costs, resulting from dropping ground water levels in parts of the Antelope Valley, caused a decline in agricultural acreage. The 30,000-acre reduction in the Basin's irrigated agriculture experienced from 1950 to 1970 is largely attributed to the declining

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ground water levels in Antelope Valley. Irrigated acreage in Antelope Valley will probably continue to decline until the year 2000, and agricultural waste loads will decline correspondingly.

The effect of irrigation drainage on the receiving ground water is highly variable. For instance, in the Owens Valley, irrigation has produced no appreciable effect on the ground water quality due to the low mineral content of the irrigation supply water and the relatively minor amount of irrigated acreage. However, in the Little Rock area and along the Mojave River, irrigation drainage has noticeably contributed to localized increases in mineral and nitrate content of the underlying ground water.

Water supply wells are discussed in the "Ground Water Protection and Management" section of this Chapter. The use of reclaimed water is discussed in the "Wastewater" section of this Chapter.

Control Measures for Irrigated Agriculture

Regional Board Actions

The Regional Board shall take all appropriate measures, as required by the California Constitution (Article X, § 2) and the California Water Code (§ 275), to prevent waste of water, unreasonable use of water, unreasonable method of use of water, and/or unreasonable method of diversion of water within the Lahontan Region. Irrigation practices shall also be regulated by implementing relevant provisions of the State Board's "Sources of Drinking Water Policy," and Nonpoint Source Management Plan. Both the Policy and Plan are summarized in Chapter 6 of this Basin Plan.

Specific Control Actions for the Susan River Watershed

1. The Regional Board shall work with the Resource Conservation District, the Soil Conservation District and private agricultural landowners to formulate a plan to begin implementation of Best Management Practices on agricultural lands to reduce pollutant loading to the Susan River.
2. The State Board, with assistance from the Regional Board and the Department of Water Resources, should examine water rights on the

Susan River to determine if violations are occurring which threaten beneficial uses. As water rights permits are renewed, the Regional Board will work with State Board staff to ensure that beneficial uses are adequately protected.

3. In cooperation with agricultural users of the CSD effluent, the Susanville CSD with assistance from Regional Board staff, shall establish a monitoring program for the effluent ditch/Brockman Slough system to quantify point and non-point sources of pollutants that are contributing to the degradation of the sloughs and hence, the Susan River.

Federal Control Measures for Irrigated Agriculture

1. Under the authority of the amended Coastal Zone Management Act, the U.S. Environmental Protection Agency has developed guidance specifying management measures for sources of nonpoint water pollution (including agriculture) in coastal waters (USEPA 1993). Measures have been proposed for sediment control, animal waste management, nutrient and pesticide management, grazing, and irrigation. This guidance may be applicable to many non-coastal waters as well.
2. In April 1992, the U.S. Environmental Protection Agency and the U.S. Department of Agriculture signed a Memorandum of Agreement (MOA) to implement increased pollution prevention in the agricultural sector. The MOA calls for the development of a pollution prevention strategy which targets the areas of nutrient management, total resource management planning, voluntary livestock or poultry management agreements, safer pesticide registration, and voluntary action projects in selected watersheds. The strategy emphasizes reduced risk to human health and natural ecosystems from agricultural activities through voluntary action.
3. The federal Conservation Reserve Program (CRP), administered by the USDA, takes fragile farmland out of production for between 10 and 15 years. The land owners receive an annual rental payment for idling the land, as well as cost-share assistance for establishing permanent vegetative cover. Stream corridors, wellhead protection areas, and other environmentally critical lands are also eligible for CRP.

Recommended Future Actions for Irrigated Agriculture

In cooperation with other appropriate local, state, and federal agencies, and private landowners, the Regional Board should:

1. Develop a monitoring program to detect water quality trends, identify problem areas, and determine the needed levels of action.
2. Encourage the use of irrigation methods designed to reduce deep percolation and nitrate leaching, and to eliminate surface runoff and erosion (e.g., drip irrigation systems, surge valves on furrow irrigation systems, etc.).
3. Support efforts by the Soil Conservation Service, Resource Conservation Districts, University Cooperative Extension, and others to develop guidelines to improve irrigation practices and to educate individual farmers about the principles of irrigation efficiency, and methods of controlling salt inputs.
4. Regulate the reclamation of new lands which could contribute large quantities of salts or pollutants to waters of the State.
5. Regulate the importation and reuse of wastewater to minimize the application of waters which are of poorer quality than existing or imported supplies. If such import or transport to upslope areas for reuse is allowed, the Regional Board should take suitable steps to mitigate short- and long-term adverse effects of increased salt load resulting from wastewater recycling.
6. Restrict the use of reclaimed waters, where water supplies are limited, to existing irrigated acreage rather than developing new irrigated acreage to utilize the reclaimed water.

Agricultural Chemicals

Agricultural chemicals include pesticides (insecticides, herbicides, fungicides, rodenticides, etc.), fertilizers, soil amendments, and other compounds. Pesticides and fertilizers can contaminate surface and ground water supplies, posing health hazards to humans and animals.

Fertilizers can also contribute to the eutrophication of streams, lakes, and rivers by adding nutrients to these systems.

Pesticides

The California Department of Pesticide Regulation (DPR) is the lead agency responsible for pesticide registration and regulation in California. The DPR maintains a computerized data base that contains information on the kinds and quantities of pesticides used in the State, including the location and acreage of chemical applications, and the type of crop treated.

Local administration of the DPR's pesticide regulatory program is the responsibility of the County Agricultural Commissioners (CACs), with coordination, supervision, and training provided by the DPR. The CACs enforce pesticide laws and regulations, and evaluate permit requests for the use of restricted pesticides. In addition, the CACs monitor and inspect pesticide handling and use operations, investigate suspected pesticide misuse, and take enforcement action against violators. The CACs are required by law to consult quarterly with Regional Board staff to report any problems resulting from pesticide use.

Effective control of problems related to pesticides is difficult because application practices tend to vary, depending on the particular chemicals and crops involved. Furthermore, the types of pesticides and formulations that are currently in use tend to change rapidly, as often as every three to five years.

The State Water Resources Control Board (State Board) entered into a Memorandum of Understanding (MOU) with the DPR on December 23, 1991, to ensure that pesticides registered in California are used in a manner that protects water quality and the beneficial uses of water while recognizing the need for pest control. The MOU established principles of agreement regarding activities of both agencies, identified primary areas of responsibility and authority between these agencies, and provided methods and mechanisms necessary to assure ongoing coordination of activities at both the State and local levels. The State Board and DPR mutually agreed, in part, to develop an implementation plan to (1) provide uniform guidance and direction to the Regional Water Quality Control Boards and to the CACs regarding the

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implementation of the MOU, (2) describe in detail procedures to implement specific sections of the MOU, and (3) make specific the respective roles of units within both agencies.

The Director of the DPR, in consultation with the State Board, the Regional Boards, and the California Office of Environmental Health Hazard Assessment, is required under the Pesticide Contamination Prevention Act (AB 2021) to annually report the following information to the California Legislature:

- The location and number of ground water wells sampled for pesticide active ingredients, and the agencies responsible for drawing and analyzing the samples.
- The location and number of well samples with detectable levels of pesticide active ingredients, and the agencies responsible for drawing and analyzing the samples.
- An analysis of the results of well sampling described above to determine the probable source of the residues. The analysis shall consider factors such as the physical and chemical characteristics of the economic poison, volume of use, method of application, irrigation practices, and types of soil in areas where the economic poison is applied.
- Actions taken by the DPR and the State and Regional Boards to prevent economic poisons from migrating to ground waters of the State.

Regional Board responsibilities in the AB 2021 Program include compiling and transmitting to the State Board any of the activities described above that have occurred in the Region during the year. The State Board combines information from all of the Regional Boards to assist in the preparation of the annual AB 2021 report to the California Legislature.

Fertilizers

Nutrients contained in fertilizers (including animal manure) can reach surface water via storm runoff, irrigation drainage, or by natural subsurface flows. Fertilizers can contribute to nitrate accumulation in ground water, resulting in violations of the drinking water standard. Fertilizers can also contribute to cumulative nutrient loading, along with other sources

such as septic systems and urban runoff.

Because the primary agricultural land use in the Lahontan Region is range livestock grazing, agricultural fertilizer use is relatively low compared to that in some other parts of the State. However, localized water quality problems have resulted from agricultural fertilizer applications. For example, increases in salinity and nitrates in ground waters of the Mojave River and Antelope Valley areas are believed to have resulted in part from excess applied fertilizers. Off-site application of manure from dairies also has resulted in water quality degradation.

More efficient application of fertilizers could help to reduce the amount of nutrients reaching surface and ground waters with agricultural drainage and runoff.

Vector Control and Weed Control

Agricultural chemicals are often employed for non-agricultural uses. For instance, aquatic herbicides are sometimes used for the control of aquatic weeds to improve vehicle access, to enhance recreational opportunities, or for aesthetic reasons. The use of terrestrial herbicides may be proposed for forest management, landscaping, fire control, golf course maintenance, or for other similar purposes. Pesticides are also used by public agencies for vector control (i.e., to eliminate pests and disease-carrying organisms such as mosquitoes).

The Regional Board has asked to be notified by public agencies of any large-scale applications of such chemicals within their jurisdiction. For example, the U.S. Forest Service is expected to notify the Regional Board of plans for chemical applications associated with timber harvest or other forest management activities. The California Department of Food and Agriculture, which is currently responsible for certain pest control programs such as that for the gypsy moth, has been asked to notify the Regional Board of plans for pesticide applications in this Region. The U.S. Bureau of Land Management, in implementing its Noxious Weed Control Program, has been asked to notify the Regional Board of aerial herbicide applications and of any spills in, or near, surface waters. Upon such notification, the Regional Board is able to become involved in the environmental consultation process required by the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). In this

way, the Regional Board can ascertain whether potential water quality impacts from such activities will be mitigated.

For smaller-scale applications, such as the use of herbicides for golf courses or other turf areas, the Regional Board has adopted waste discharge requirements which include control measures for herbicide use. The Regional Board may wish to have staff review projects on a case-by-case basis, in order to determine whether there is any potential for water quality impacts and if waste discharge requirements are necessary.

In some instances, use of these substances will have unavoidable water quality impacts, particularly in situations where the chemicals are applied directly into or near surface water (such as aquatic weed control or vector control). In these cases, the use of such chemicals can result in the violation of water quality objectives for pesticides and toxic substances, as well as in the violation of waste discharge prohibitions. Federal regulations (40 CFR § 131.13) allow the Regional Board to grant conditional variances to water quality objectives under certain circumstances. Furthermore, pursuant to Section 13269 of the California Water Code, the Regional Board may waive the need for waste discharge requirements and reports of waste discharge, for specific types of discharge, where such a waiver is in the public interest. Such actions nevertheless must conform to State and federal nondegradation requirements. Although these policies do allow limited decline in water quality when the State finds that an overriding public benefit will result, both the federal and State policies require that water quality be maintained at a level sufficient to protect existing beneficial uses.

Control Measures for Agricultural Chemicals

Regional Board Control Actions

Chapter 3 of this Basin Plan includes a narrative water quality objective for pesticides which states that pesticide concentrations in waters of the Region shall not exceed the lowest detectable levels, using the most recent detection procedures available. (This objective was amended in 1990 to provide limited exemptions for the use of rotenone by the California

Department of Fish & Game.)

The use of agricultural chemicals shall be further regulated by implementing relevant provisions of the State Board's Nonpoint Source Management Plan, and, once adopted, the plan guiding implementation of the State Board's 1991 MOU with the Department of Pesticide Regulation. Some pesticides are also included in the California Department of Health Services' Proposition 65 list of carcinogens which should not be present above "action levels" in sources of drinking water. (Proposition 65 is discussed in the "Spills, Leaks, Complaint Investigations and Cleanups" section of this Chapter.)

The narrative water quality objective for pesticides, and nondegradation objectives for water quality and aquatic communities and populations, are important considerations in the Regional Board's regulation of discharges which may include pesticides. These objectives essentially preclude the use of aquatic pesticides or the direct discharge of pesticides to surface waters.

Federal Control Measures for Agricultural Chemicals

1. Under the authority of the amended Coastal Zone Management Act, the U.S. Environmental Protection Agency (USEPA) has developed guidance specifying management measures for sources of nonpoint pollution (including agriculture) in coastal waters (USEPA 1993). Measures have been proposed for nutrient and pesticide management. This guidance may be applicable to many non-coastal waters as well.
2. In April 1992, the USEPA and the U.S. Department of Agriculture (USDA) signed a Memorandum of Agreement (MOA) to implement increased pollution prevention in the agricultural sector. The MOA calls for the development of a pollution prevention strategy which includes safer pesticide registration. The strategy emphasizes reduced risk to human health and natural ecosystems from agricultural activities through voluntary action.
3. The USEPA and USDA are cooperating in the development and implementation of environmentally-sound pest management practices, and in the identification of the best

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methods of applying integrated pest management in agriculture. As a first step, both agencies sponsored a public/private Integrated Pest Management Forum in June 1992.

4. In April 1992, a *Federal Register* notice and public workshop solicited public comments on possible criteria, policies, and procedures for encouraging the development and registration of negligible-risk pesticides and replacement pesticides than are less hazardous than currently-registered products. Options suggested included faster review of applications, lower fees and registration costs for safer pesticides, reconsideration of current registrations for riskier pesticides, and public listing of risky pesticides as targets for replacement.
5. The Agriculture in Concert with the Environment (ACE) grant program is administered by the USEPA's Office of Pollution Prevention and the USDA Cooperative State Research Service. ACE grants have been awarded for projects whose objective is adopting sustainable agriculture practices and reducing the use of herbicides and other pesticides.
6. The USDA's Sustainable Agriculture and Research Program gives grants to develop and distribute to farmers practical, reliable information on alternative farming practices.

Recommended Future Actions for Agricultural Chemicals

In cooperation with other appropriate local, state, and federal agencies, and private landowners, the Regional Board should:

- Encourage the State Board to develop a monitoring program to detect water quality trends related to agricultural chemicals, identify problem areas, and determine the needed levels of action.
- Review proposals for weed control and vector control projects on a case-by-case basis, and consider adopting Basin Plan policies and/or waivers to allow qualified projects to proceed.
- Support efforts by the Soil Conservation Service, Resource Conservation Districts, University Cooperative Extension, and others to educate

individual farmers about Best Management Practices for fertilizer and irrigation management, including, but not limited to, developing fertilizer management plans and/or other strategies to optimize the type, amount, rate, and timing of application.

- Develop Best Management Practices or other guidance for the control of aerial applications of agricultural chemicals.

Confined Animal Facilities

Confined animal facilities are used to raise or shelter high population densities of animals such as cattle, pigs, chickens, turkeys, sheep, horses, commercial furbearers, and pets. A number of such facilities presently exist in the Lahontan Region.

Confined animal facilities may potentially impact water quality in a number of ways. Stormwater runoff can carry by-products of such operations into surface waters. Such pollutants include washwater from milking areas, salts present in animal feed and manure, nutrients and pathogens found in manure, and sediment that has been detached by trampling and other land disturbances. Manure disposal can also affect ground water quality by increasing concentrations of total dissolved solids (salt) and nitrate.

Manure and wastewater from confined animal facilities may generally be applied to disposal fields or crop lands, provided that the quantities applied are reasonable. "Reasonable" is defined as the amount the land or crops can beneficially utilize. Overloading may be detrimental to the application site, as well as nearby receiving waters.

The confined animal facilities presently of most concern in the Lahontan Region are dairies. Studies have shown that the total dissolved solids (salt) content of the ground water along the Mojave River has become elevated both along the length of the river and over time. Dairy manure is one likely contributor to the overall salt loading of this closed basin.

In the early 1980s, dairy operators in the increasingly urbanized Chino basin began looking to the high desert along the Mojave River to relocate. A proposal

to establish a large number of dairies in Summit Valley (the headwaters of the Mojave River) prompted the Regional Board to commission a study to identify and evaluate potential areas of concern associated with the location/siting of confined animal facilities. That study, conducted by the Department of Water Resources, concluded that a two- to three-mile band along the Mojave River would most rapidly be impaired by percolation of dairy and other wastes, and that other areas outside of the Mojave River floodplains could also be impacted by dairy waste, but at a slower rate. The Regional Board responded by adopting waste discharge requirements for large dairies located along the Mojave River.

Control Measures for Confined Animal Facilities

(For confined animal facilities regulations which apply in the Lake Tahoe Basin, see Chapter 5.)

The State and Regional Water Boards have authority under the California Water Code, in general, and regulations contained in the California Code of Regulations, Title 23, Chapter 15, Article 6, in particular, to fully regulate waste disposal activities at confined animal facilities.

Regional Board Control Actions

The Regional Board has adopted waste discharge requirements (WDRs) for several dairy operations in the Lahontan Region. Regional Board staff will periodically inspect all confined animal facilities for which WDRs have been adopted. Based on inspections and other information, the WDRs will be periodically evaluated to determine if they are protective of water quality and in conformance with the minimum standards contained in the California Code of Regulations (23 Cal. Code of Regs. § 2560-2565). Control systems must be designed to minimize surface runoff, minimize percolation of field-applied wastewater to ground water, and minimize percolation of water through manure into ground water. Any control system utilizing retention ponds should either be lined or situated over soil of relatively low permeability to allow slow infiltration and percolation. Additional and/or more stringent measures may be required in areas overlying threatened or impaired sources of drinking water. The need for construction/retrofit of pollution prevention or ground water monitoring facilities

(including time schedules) will be considered on a case-by-case basis.

The State Board's Dairy Waste Task Force issued guidelines in 1991 to facilitate consistent regulation of waste management at dairies throughout California. Those guidelines (and any future amendments) will be used by the Regional Board to assess and respond to the potential water quality impacts of dairy operations. The regulatory process for existing dairies is initiated by surveying dairy owners and encouraging the use of Best Management Practices. If a dairy owner does not voluntarily implement BMPs, a conditional waiver of waste discharge requirements may be issued. Waste discharge requirements may be adopted for those facilities that fail to comply with the conditional waiver. Regardless of the tier under which a facility is regulated, all confined animal operations are required to comply with the minimum standards contained in the California Code of Regulations and this Basin Plan.

All proposed new or re-opening dairies must file a report of waste discharge with the Regional Board. The Regional Board will require that the report of waste discharge include the information outlined in the Dairy Waste Task Force guidance. Based on the report of waste discharge (and other information as available), the Regional Board will either adopt waste discharge requirements or a conditional waiver stipulating that, at a minimum, facilities will be designed, constructed and operated to meet the minimum criteria contained in the California Code of Regulations and this Basin Plan. Monitoring programs may be required to assure compliance.

The Regional Board relies heavily upon the USDA Soil Conservation Service (SCS), which has the technical expertise and congressional authority to assist farmers in developing pollution prevention plans to comply with state regulations, including this Basin Plan. In some cases, matching funds are available through the SCS to assist the owners of confined animal facilities in the design and construction of pollution prevention measures.

The process described above for the regulation of dairies will also be utilized to assess and regulate other types of confined animal facilities, whenever deemed appropriate by the Regional Board's Executive Officer.

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Regulation of confined animal facilities by the Regional Board shall account for cumulative effects such as salt and nitrate accumulations in ground water from other sources.

Waste discharge requirements adopted for a specific confined animal facility may not effectively regulate the off-site disposal of manure. Potential water quality degradation due to such disposal shall be regulated by implementing relevant provisions of the State Board's Nonpoint Source Management Plan.

Federal Control Measures for Confined Animal Facilities

1. Under the authority of the amended Coastal Zone Management Act, the U.S. Environmental Protection Agency has developed guidance specifying management measures for sources of nonpoint water pollution (including agriculture) in coastal waters (USEPA 1993). Measures have been proposed for animal waste management. This guidance may be applicable to many non-coastal waters as well.
2. In April 1992, the U.S. Environmental Protection Agency and the U.S. Department of Agriculture signed a Memorandum of Agreement (MOA) to implement increased pollution prevention in the agricultural sector. The MOA calls for the development of a pollution prevention strategy which includes voluntary livestock or poultry management agreements. The strategy emphasizes reduced risk to human health and natural ecosystems from agricultural activities through voluntary action.

Recommended Future Actions for Confined Animal Facilities

1. In cooperation with other agencies, the Regional Board should develop a monitoring program to detect water quality trends, identify problem areas, and determine the needed levels of action.
2. Where appropriate, the Regional Board should begin actively regulating all confined animal facilities that may adversely affect water quality or beneficial uses.
3. To aid in the development of BMPs for dairy systems, the Regional Board should cooperate with other agencies to collect and review, whenever feasible, field-scale data on salt and

plant-available nitrogen for cropped or pastured dairy production systems.

4. The Regional Board should encourage the use of plant nutrients in liquid and solid animal wastes as a resource, rather than a waste to be disposed of.
5. The Regional Board should encourage and assist in the development of criteria for allowable animal units/acre for different site-specific crop, soil, climate, and management variables.

Aquaculture Facilities

(Public fish hatcheries are addressed in the "Fisheries Management" discussion within the "Resources Management and Restoration" section of this Chapter.)

Discharges from aquaculture operations can contain waste products (nutrients and suspended solids) as well as pesticides and other substances. Potential water quality impacts downstream of these discharges include increased productivity and algal growth, increased biological oxygen demand, and impaired aquatic habitat. The temperature of discharged waters can also affect receiving waters.

Another concern with aquaculture facilities is the release of exotic species. If commercial species are not properly contained, they could escape and become established outside of the facility, potentially violating objectives for species diversity and nondegradation of aquatic communities.

Regional Board Control Actions for Aquaculture Facilities

All aquaculture facilities which include point source discharges to surface waters shall be regulated under National Pollutant Discharge Elimination System (NPDES) permits.

Recommended Future Actions for Aquaculture Facilities

The Regional Board should be advised of routine and other applications of pesticides or other substances potentially containing toxic substances.